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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,459	01/23/2001	Masami Aizawa	F-6842	2130

7590 11/06/2002

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EXAMINER
NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/767,459	AIZAWA ET AL.	
	Examiner	Art Unit	
	Tran N. Nguyen	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *23 September 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *26 and 289* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *26 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on __ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *23 September 2002* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 9/23/02 has been approved.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 26 and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Matsumura** et al (US 4088909) in view of **Yamagami** et al (JP 411283817A) and **Takahashi** (US 5580400).

Matsumura discloses a motor comprising: a stator (12) and a rotor assembly (11) having a rotor permanent magnet (21), which is shown to have a substantial doughnut, shaped body. Matsumura substantially discloses the claimed invention, except for the limitations of the rotor made of SmFeN and resin binder and having a phosphate coating, entirely covering an outside surface of the molded body.

Yamagami, however, teaches a resin-bonded-SmFeN-molded magnet. Yamagami teaches that the resin-bonded-SmFeN-molded magnet would have high heat resistance, superior size stability, high mechanical strength and superior magnetic characteristics. Furthermore, those skilled in the art would know that there always should exist a small air gap between the

rotor and the stator, particularly for a miniature motor such as timepiece motor, resin-bonded-SmFeN-powder molded magnet would enable precision in the rotor's dimension to ensure a sufficient air gap therebetween.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Matsumura's motor by employing a resin bonded SmFeN magnet, as taught by Yamagami, as the Matsumura's rotor magnet. Doing in so would provide the motor with a rotor magnet with high heat resistance; superior size stability, high mechanical strength and superior magnetic characteristics resulting in improve reliability and performance of the motor.

In addition, Takahashi teaches a resin-bonded-magnet-powder molded magnet can be improved in the quality and stabilized against effects of atmospheric oxygen and humidity by forming coating layer of phosphate on the surface, particularly aluminum phosphate coating. Takahashi specifically teaches that the phosphate coating not only can prevent oxidation of the iron powder but also enhance magnetic properties of the produced permanent magnet (col 1 line 50+). Those skilled in the art would realize that the Takahashi's important teaching is that to prevent oxidation, the rare-earth permanent magnet should be coated with a layer of phosphate coating. Hence, it would have been obvious to an artisan to apply this essential teaching to provide an entire outer surface of the rotor magnet with a coat of a phosphate coating for preventing the magnet from being rusted.

Regarding the newly added limitations of *the phosphate coating is an iron-hygrogenphosphate coating combined with an unstable Fe of the Fe component included in the body*, this is an inherent chemical reaction between the aluminum phosphate coating treatment and the magnet, on which the phosphate coating is applied. This chemical reaction creates an advantage of excellent bonding between the iron in the magnet and the phosphate coating to eliminate the unstable iron, which is thought to be the cause of oxidation in the magnet. The adhering characteristic of the aluminum phosphate coating permits the coating material to adhesively cover the unstable iron in the magnet, and the excellent impenetrable characteristic of the aluminum phosphate coating enable the corrosion resistance for the magnet.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Matsumura motor's rotor magnet by providing a layer of aluminum phosphate on the surface of the magnet, as taught by Takahashi. Doing so would not only

improve the reliability of the rotor magnet as the result of resistance against oxidation effects of atmospheric oxygen and humidity, but also enhance magnetic characteristic of the magnet.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.

TRAN NGUYEN
PRIMARY PATENT EXAMINER
TC-2800